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Client Ref.

273686

F00-219-US-DIV-3

**INFORMATION DISCLOSURE STATEMENT  
BY APPLICANT**

Applicant: **MANABE et al.**

Div. of Appln. No.: **09/417,778**

Filing Date: October 14, 1999

Examiner: Minh Loan Tran

Group Art Unit: 2811

Date: OCTOBER 2, 2000

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| Sum                     | AR 5,278,433       | 1/1994          | Manabe et al.                           |       |              |                                 |
|                         | BR 4,844,989       | 07/89           | Murdock                                 |       |              |                                 |
|                         | CR 4,408,217       | 10/83           | Kobayashi                               |       |              |                                 |
|                         | DR 4,268,842       | 05/81           | Jacob et al.                            |       |              |                                 |
|                         | ER 5,005,057       | 04/91           | Izumiya et al.                          |       |              |                                 |
|                         | FR 4,614,961       | 09/86           | Khan et al.                             |       |              |                                 |
|                         | GR 4,153,905       | 05/79           | Charmakedze et al.                      |       |              |                                 |
|                         | HR 4,855,249       | 08/89           | Akasaki et al.                          |       |              |                                 |
|                         | IR 4,911,102       | 03/90           | Manabe et al.                           |       |              |                                 |
|                         | JR 4,945,548       | 08/90           | Kotaki et al.                           |       |              |                                 |
|                         | KR 4,396,929       | 08/83           | Ohki et al.                             |       |              |                                 |
|                         | LR 5,006,908       | 04/91           | Natsuoka et al.                         |       |              |                                 |
|                         | MR 4,608,581       | 08/86           | Bagratishvili et al.                    |       |              |                                 |
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|     |    |                    |                 |         |               |       |          | Enclosed            | No | Enclose                             | No |
| Sum | OR | 2-229475           | 09/1990         | Japan   |               |       |          |                     | x  |                                     | x  |
|     | PR | 2-275682           | 11/1990         | Japan   |               |       |          |                     | x  |                                     | x  |
|     | QR | 5-042785           | 04/1975         | Japan   |               |       |          |                     | x  |                                     | x  |
|     | RR | 59-228776          | 12/1994         | Japan   |               |       |          |                     | x  |                                     | x  |
|     | SR | 0 620 203 A1       | 10/1994         | Europe  | Nakahata      |       |          |                     | x  |                                     | x  |
|     | TR | 0-277597           | 08/1988         | EPA     |               |       |          |                     | x  |                                     | x  |
|     | UR | 03-034549          | 02/1991         | Japan   | Toyoda        |       |          |                     | x  |                                     | x  |
|     | VR | 34549              | 02/1991         | Japan   | Hatano        |       |          |                     | x  |                                     | x  |
|     | WR | 4,006,449          | 09/1990         | Germany | Manabe        |       |          |                     | x  |                                     | x  |
| Sum | XR | 57-018377          | 01/1982         | Japan   | KOBAYASHI     |       |          |                     | x  |                                     | x  |

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|     | ZR  | I. Akasaki et al., "Effects of AlN Buffer Layer on Crystallographic Structure... by MOVPE", J. Crystal Growth 98 (1989) pp. 209-19.   |  |  |  |
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| Sum | BBR | Ilegems et al. "Electrical properties of n-Type Vapor-growth Gallium Nitride", J. Phys. Chem. solids., 1973, Vol. 34, pp. 885-895.  |  |  |  |

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| SM                      | AR 5,218,216       | 06/1993         | Manabe                                  |       |              |                                 |
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| SM                      | ER 5,076,860       | 12/1991         | Ohba et al.                             |       |              |                                 |
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| SM | MR | 58-012381          | 01/1983         | Japan   | Yoneda           |       |          |                     | x  |                                     | x  |
|    | NR | 61-007671          | 01/1986         | Japan   | Kawabata         |       |          |                     | x  |                                     | x  |
|    | OR | 57-087184          | 05/1982         | Japan   | Tabuchi          |       |          |                     | x  |                                     | x  |
|    | PR | 57-153479          | 09/1982         | Japan   | Ooki             |       |          |                     | x  |                                     | x  |
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|    | SR | 34549              | 02/1991         | Japan   | Hatano           |       |          |                     | x  |                                     | x  |
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|    | VR | Sayyah et al. "The Influence of TMA and SiH4 on the Incorporation Rate of GaInAlxGa1-xN Crystals Grown from TMG and NH3", Journal of Crystal Growth 77 (1986), pp. 424-429 North-Holland, Amsterdam. |  |  |  |  |  |  |  |  |  |
|    | WR | Bottka, et al., Silicon and beryllium doping of OMVPE Grown..., Journal of Crystal Growth 68 (1984) pp. 54-59, North-Holland Amsterdam   |  |  |  |  |  |  |  |  |  |
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|                         | AR                 |                 |   |       |              |                                 |
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|    |                    |                 |         |                 |       |          | Enclosed            | No | Enclose                             | No |
| SM | MR 49-29771        | 7/1972          | Japan   | Kasano          |       |          |                     | x  |                                     | x  |
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|    | OR 59-228776       | 6/1983          | Japan   | Maefutsu et al. |       |          |                     | x  |                                     | x  |
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|    | QR 1-589351        | 05/1981         | England |                 |       |          |                     |    |                                     |    |
|    | RR 63-188977       | 08/1988         | Japan   |                 |       |          |                     |    |                                     |    |
|    | SR 62-119196       | 05/1987         | Japan   |                 |       |          |                     |    |                                     |    |
|    | TR 57-046669       | 10/1982         | Japan   |                 |       |          |                     |    |                                     |    |
| SM | UR 03-034549       | 02/1991         | Japan   |                 |       |          |                     |    |                                     |    |
|    | VR 54-071589       | 06/1979         | Japan   | Toyoda          |       |          |                     |    |                                     |    |

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| SM | ZR | Koide et al., Epitaxial Growth and Properties of Al <sub>x</sub> Ga <sub>1-x</sub> N by MOVPE, J. Electrochem. Soc.: SOLID-STATE SCIENCE AND TECHNOLOGY, Vol. 133, No. 9, September 1986, pp. 1956-1960.  |  |  |  |  |  |  |  |  |

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|    | NR 54-071590       | 06/1979         | Japan   | Toyoda        |       |          |                     | x  |                                     | x  |
|    | OR 02-081482       | 03/1990         | Japan   | Manabe        |       |          |                     | x  |                                     | x  |
|    | PR 02-081483       | 03/1990         | Japan   | Manabe        |       |          |                     | x  |                                     | x  |
|    | QR 02-081484       | 03/1990         | Japan   | Manabe        |       |          |                     | x  |                                     | x  |
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|    | TR | Kiyoshi Takahashi, Semiconductor Engineering: Basic Characteristics of Semiconductor, Morikita Electric Engineering Series, Vol. 4, Chapter 14: Semiconductor Material Technics, 14:1: Forming of Semiconductor Material, August 1, 1975, p. 297. |  |  |  |  |  |  |  |  |
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